1853MNRAS..14...18B

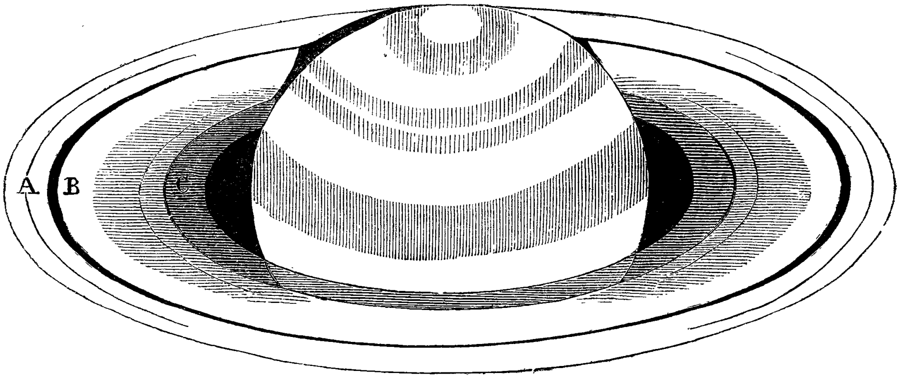
last year at Malta, and seems to be the projecting part of the shadow of the ball on the ring B. But I was amazed to see it so early, while the shadow and the *western* side is yet so broad. The edge of this shadow is most decidedly *convex* towards the ball on the ring B, and *concave* towards the ball on the ring A. There is an obvious *notch* on the edge of the shadow, which extends much further from the ball at the outer edge of B than at the inner edge of A, imparting the impression that these two edges are not in the same plane. It is far greater than is due merely to the *separation* of the two rings.

"Oct. 25, 11ʰ G.M.T. I entered in my journal as follows:— 'Fine views, confirming all I saw last night. Vision is more steady and satisfactory. The black spot on the ring B is seen, I think, more plainly than last night. The southern edge of the ball seems to be exactly coincident with the southern (exterior) edge of the outer ring. The dark line on that ring at times very plain and steady. Nebulous ring very well seen; *western end browner than the other.* Quite transparent where it crosses the ball.'

"'Nov. 2. There is a thick haze over the sky, through which the brighter stars are shining dimly with constantly varying brightness. *Saturn* at times remarkably distinct. The black spot on ring B to the *east* of the ball is well seen: it has certainly increased since Oct. 24 and 25, when I first saw it.

"'The nebulous ring is wonderfully well seen. When the haze thickens, the fading (or shading off) of the light of this ring on the portion towards its inner edge is very obvious.'

"I inclose a small sketch of the planet, which, though it has no pretensions to great accuracy in the proportions, and shows the shadows somewhat exaggerated, may serve to illustrate the verbal description.



"*Wateringbury, 9th Nov.,* 1853."

---

## *On the Visibility of the Dark Ring of Saturn in a moderate Telescope.* By T. W. Burr, Esq.

"As everything which brings a phenomenon within the reach of a larger number of observers is useful, you may, perhaps,

Downloaded from http://mnras.oxfordjournals.org/ at Edinburgh University on June 18, 2015

© Royal Astronomical Society • Provided by the NASA Astrophysics Data System

1853MNRAS..14...19T

think it worth while to mention in the *Monthly Notices* that I find the dusky ring of *Saturn*, which I believe has only been seen by rather large telescopes, is discernible with much smaller instruments; and that the possessors of such may look for a sight of this interesting appendage to the planet with every chance of success. On the night of Thursday, 20th October, the slate-coloured interior ring was beautifully seen in my telescope of only 4 feet focal length, with an aperture of 3⅜ inches. The eye-piece was an Huyghenian one, giving a power of 480. Not anticipating that the telescope would show it, I had not looked for it, but had my attention drawn to it by the inquiry of a friend, 'Why half the space between the ring and the planet was lighter than the rest?' Upon looking myself, I immediately recognised the dusky purplish light and well-defined inner boundary of the ring in question, occupying about a third of the space from the bright inner ring, and also saw its dark line across the body slightly broader at the ends than in the middle. Other persons also verified the observation. This was between 10 and 11·30 G.M.T. The atmosphere was excessively moist, and the sky rather hazy; but I have never seen the detail of the moon and *Saturn* to greater perfection than on that evening. I do not suppose that many telescopes so small as my equatoreal will show this ring, as my object-glass (by Ross) is a very fine one; but I should think good 5-feet telescopes, of 3¾ inches aperture, which are in the possession of so many amateurs, would."

---

## *On Rating Chronometers by Lunars.* By H. Toynbee, Esq., Commander of the Gloriana, East Indiaman.

In vol. ix., No. 7, of the proceedings of the Royal Astronomical Society, dated May 11, 1849, will be found the notice of a paper "On the Practicability and Advantages of obtaining a Sea-rate for a Chronometer," which is published entire in the *Nautical Magazine* for February 1850.

In the paper alluded to, I endeavoured to prove how a good practical observer of lunars could obtain a better sea-rate for his chronometer than that supplied by the maker, and than one determined by other means during the ship's stay in port, also an original error which very rarely gives an error on Greenwich mean time of more than twenty seconds.

A general opinion seemed to be that I was correct, so far as my own observations were concerned, but that lunar observers generally could not apply the method satisfactorily.

My present object is to prove this objection erroneous. Late in 1850 I took the command of another ship, my chief officer during this voyage, on account of the delicate state of his health, was prevented from taking lunars.

In 1851, Mr. J. W. Quihampton (now commander of the Tudor) became my chief officer, and continued so until the middle of September 1853. He had been in the habit of taking lunars, but, like almost all persons with whom I have conversed on the subject, had been taught that the best lunars could not be depended upon

Downloaded from http://mnras.oxfordjournals.org/ at Edinburgh University on June 18, 2015

© Royal Astronomical Society • Provided by the NASA Astrophysics Data System